

normal; the greatest monthly amount, 8.47, occurred at Eau Claire, and the least, 1.08, at Lincoln.—*W. M. Wilson.*

*Wyoming.*—The mean temperature was 47.8°, or 2.8 below normal; the highest was 87°, at Basin on the 11th and 18th, and the lowest, 10°, at Palmer.

at Dome Lake on the 2d and at Burns on the 3d. The average precipitation was 1.83 or 0.20 below normal; the greatest monthly amount, 4.74, occurred at Sheridan, and the least, 0.05, at Wamsutter.—*W. S. Palmer.*

## SPECIAL CONTRIBUTIONS.

### RECENT PAPERS BEARING ON METEOROLOGY.

W. F. R. PHILLIPS, in charge of Library, etc.

The subjoined list of titles has been selected from the contents of the periodicals and serials recently received in the library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau:

*Symons Meteorological Journal.* London. Vol. 34.

—Ozone. P. 50.

Cross, Robert. Whirlwind at Worstead, Norfolk, March 20, 1899. P. 51.

*Journal de Physique.* Paris. 3me Série. Tome 8.

Pellat, H. Perte d'électricité par évaporation de l'eau électrisée. Vapeur émise par un liquide non-électrisé. Application à l'électricité atmosphérique. Influence des fumées. P. 253.

*Comptes Rendus.* Paris. Tome 128.

Bonnier, G. Caractères anatomiques et physiologiques des plantes rendues artificiellement par l'alternance des températures extrêmes. P. 1143.

Le Cadet, G. Sur l'ascension du "Balaschoff" exécutée le 24 Mars, 1899. P. 1192.

*Zeitschrift für Luftschifffahrt u. Phys. d. Atm.* Berlin. 18 Jahrg.

Dientzbach, K. A. M. Herring's neue Flugversuche. P. 73.

*Meteorologische Zeitschrift.* Wien. Band 16.

Bergholz, P. Die Taifune vom 9 und 29 September, 1897. P. 145.

Edvi, E. I. v. Die Lage der Isotherme von 0° C. P. 157.

Schwab, Fr. Beobachtung eines Halo-Phänomenes. P. 164.

Schamberger, H. Sonnenringe. P. 165.

Meinardus, W. Der Eisregenfall vom 20 Oktober, 1898, über Mittel- und Ostdeutschland. P. 165.

—Beschädigung der Telegraphen- und Fernsprechkanäle im Kreise Waldenburg durch Eisbelastung und Baumbrech. P. 171.

Supan, A. Die jährlichen Niederschlagsmengen auf den Meeren. P. 173.

—Klima von Galveston, Tex. P. 173.

Hiratsuka, C. Harmonische Analyse der täglichen Variation der Deklination zu Tokio. P. 178.

Nippoldt, A., Jr. Bemerkung zu vorliegender Arbeit. P. 179.

Mazelle, E. Berichtigung zu SW-Sturm in Triest. P. 180.

*Scientific American.* New York. Vol. 80.

Dexter, E. G. Crime and the Weather. P. 19592.

*L'Aerophile.* Paris. 7 année.

Minniot, W. Les ballons-sondes de M. Teisserenc de Bort. P. 38.

Hermite, G. Le lancer de l'"Aerophile" No. 3, 24 Mars, 1899. P. 38.

Besançon, G. L'ascension du "Balaschoff," 24 Mars, 1899. P. 41.

Le Cadet, G. Sur l'ascension du "Balaschoff," 24 Mars, 1899. P. 42.

*Astrophysical Journal.* Chicago. Vol. 9.

Ångstrom, K. Absolute Determination of the Radiation of Heat with the Electric Compensation Pyrheliometer. P. 332.

*Das Wetter.* Berlin. 16 Jahrg.

Sprung, A. Auffällige Strahlungstemperaturen. P. 83.

Clayton, H. H. Studien über cyklonale und anticyklonale Erscheinungen vermittelst Drachen am Blue Hill Observatorium. P. 85 and 114.

Fajdiga, I. Die atmosphärische Electricität und der Blitzableiter. P. 45, 69, 92, 116.

*Geographical Journal.* London. Vol. 13. 1899.

Cornish, V. Kumatology (Study of waves and wave structure of the atmosphere, hydrosphere, and lithosphere). P. 624.

Petermann's Mittheilungen. Gotha. Band 45.

Friedericson, M. Meteorologische Beobachtungen in Luktschun, Zentralasien. P. 125.

Scottish Geographical Magazine. Edinburgh. Vol. 15.

Dingelstedt, V. Hydrography of the Caucasus. P. 281.

*Nature.* London. Vol. 60.

—Height of the Aurora. P. 130.

*Ciel et Terre.* Bruxelles. Vol. 7.

—Sur le phénomène de l'apparition simultanée du fœhn des deux côtés des Alpes. P. 171.

*Terrestrial Magnetism and Atmospheric Electricity.* Baltimore. Vol. 4. Rucker, A. W. Secondary Magnetic Field of the Earth. P. 113.

## OBSERVATIONS AT RIVAS, NICARAGUA.

The records contributed for many years by Dr. Earl Flint, at Rivas, Nicaragua, include barometric readings. His present station is at 11° 26' N., 85° 47' W. The observations at 7:17 a. m., local time, are simultaneous with Greenwich 1 p. m. The altitude of his barometer is 36 meters above sea level, but until the barometer has been compared with a standard it seems hardly necessary to publish the daily readings. The wind force is recorded on the Beaufort scale, 0-12. When cloudiness is less than  $\frac{1}{6}$ , the letter "F," or "Few," is recorded.

This station is situated on the western shore of Lake Nicaragua, not far from the eastern end of the western division of the Nicaragua Canal. The volcano Ometepe, on an island in Lake Nicaragua, is about 10 miles northeast of the station. Mr. Flint's records occasionally mention the presence of clouds on the summit of this mountain.

Dr. Flint's reports to the Weather Bureau now embrace two distinct features, namely, the simultaneous morning observations and the daily climatological summary, as given in the two following tables for each month.

*Simultaneous observations at 1 p. m. Greenwich (or 7:17 a. m. local) time, April, 1899.*

Date.	Tempera-ture.		Wind.	Upper clouds.			Lower clouds.			
	Air.	Dew-point.		Direction.	Force.	Kind.	Amount.	Direction from.	Kind.	Amount.
1.....	79	79	ne.	5	c.	10	sw.		k.	1
2.....	79.5	79	ne.	5	ok.	9	sw.		k.	1
3.....	78	79	ne.	3	ok.	3	sw.		k.	0.5
4.....	78	79	ne.	5	c.	10	sw.		k.*	...
5.....	78	79	ne.	6	cs.				k.	Few
6.....	78.5	79	ne.	4					k.	...
7.....	78	79	ne.	4					ks.	1
8.....	78	79	ne.	4					ks.	2
9.....	78	79	ne.	6	ok.	10	sw.			
10....	78	79	ne.	4					k.	10
11....	74.5	75	ne.	7					ks.	1
12....	78	79	ne.	5	cs.	8	sw.		f. k.	1
13....	78	79	ne.	5	ck.				k.	2
14....	76.5	78	ne.	8					kn.	10
15....	77	79	ne.	3	cs.	Few	sw.		k.	6
16....	78	79	ne.	2						
17....	79	79	ne.	3						5
18....	79.5	79	ne.	3						4
19....	80	79	ne.	2						5
20....	79	79	ne.	1	os.	1	sw.		k.	9
21....	81.5	77	ne.	1	ck.		sw.		k.	3
22....	80.5	73	ne.	5	ck.		sw.		kn.	10
23....	79	72	ne.	6					f. k.	2
24....	80	72	ne.	6						5
25....	80.5	73	ne.	5	os.	2				ne.
26....	81	73	ne.	6						1
27....	81	73	ne.	4						1
28....	79	73	ne.	4						1
29....	79.5	73	ne.	3	os.	se.				1
30....	78	71	ne.	4					f. k.	Few
Sums.....	78.6									
Means....	78.6									

\* Cumuli on Ometepe.